

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 09:16:22 ON 15 MAY 2007

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1907 - 15 May 2007 VOL ISS ISS

FILE LAST UPDATED: 14 May 2007 (20070514/ED)

held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications.

The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 15 May 2007 VOL 146 ISS 21

FILE LAST UPDATED: 1 May 2007 (20070501/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate

=> d 174 bib abs hitind hitstr retable tot

L74 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:898466 HCAPLUS Full-text

DN 141:366620

TI Method for the reduction of the residual monomer content in aqueous polymer dispersions.

IN Chowdhry, Mubarik Mahmood; Gaschler, Wolfgang

PA BASF AG, Germany

SO Ger. Offen., 8 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	DE 10317434	A1	20041028	DE 2003-10317434	20030415	<--
	WO 2004092226	A1	20041028	WO 2004-EP3848	20040413	<--
	W:					
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,					
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,					
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,					
	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,					
	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,					
	TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
	RW:					
	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,					
	BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,					
	ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,					
	SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,					
	TD, TG					
	EP 1615960	A1	20060118	EP 2004-726959	20040413	<--
	EP 1615960	B1	20060816			
	R:					
	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,					
	IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR					
	AT 336521	T	20060915	AT 2004-726959	20040413	<--
	US 2006205851	A1	20060914	US 2005-552994	20051013	<--

PRAI DE 2003-10317434 A 20030415 <--
 WO 2004-EP3848 W 20040413 <--

AB To reduce the residual monomer content **aqueous polymer dispersions** are treated at $2 \leq \text{pH} \leq 10$ with an initiator system comprising 0.001-5 weight% (based on total monomers) of persulfates, 0.001-5 weight% of **methylketones** R1C(=O)Me ($\text{R1} = \text{C1-5 alkyl}$) and, optionally catalytic quantities (1-1,000 ppm) of metal (Fe, Cu, Mn, V, Ni, Co, Ti, Cr and/or Ag) ions. Thus, mixing 1500 g of styrene - Bu acrylate **dispersion** (prepared by radical **polymerization** of styrene, Bu acrylate and acrylic acid in water in the presence of surfactants and emulsifying agents at 80° and pH 4.3) having solid content 52 weight% with 2 g of 1% **aqueous** solution of AgNO_3 at room temperature, heating up to 90° , adding 25 g of 23% solution of sodium persulfate and 25 g of 20% solution of acetone in water gave after 1 h mixing a reduction of styrene content from 2,930 to 70 ppm, Bu acrylate from 13,150 to 1,900 and acrylic acid from 3,450 to 1,930 ppm.

IC ICM C08F0006-06

CC 35-3 (Chemistry of Synthetic High Polymers)

ST monomer residue removal **aq polymer dispersion**

initiator; styrene Bu acrylate **dispersion** monomer residue removal; silver nitrate sodium persulfate acetone initiator monomer residue removal

IT **Ketones, uses**

RL: CAT (Catalyst use); USES (Uses)

(aliphatic, initiator component; reducing of residual monomer content of **aqueous polymer dispersions** with an initiator post-treatment)

IT **Disperse systems**

(**aqueous**; reducing of residual monomer content of **aqueous polymer dispersions** with an initiator post-treatment)

IT Cations

(initiator component; reducing of residual monomer content of **aqueous polymer dispersions** with an initiator post-treatment)

IT **Polymerization catalysts**

(radical; reducing of residual monomer content of **aqueous polymer dispersions** with an initiator post-treatment)

IT 25586-20-3P, Acrylic acid-butyl acrylate-styrene **copolymer**

RL: IMF (Industrial manufacture); PREP (Preparation)

(**aqueous dispersion**; reducing of residual monomer content of **aqueous polymer dispersions** with an initiator post-treatment)

IT 67-64-1, Acetone, uses 7439-89-6D, Iron, salts

7439-96-5D, Manganese, salts 7440-02-0D, Nickel, salts

7440-22-4D, Silver, salts 7440-32-6D, Titanium, salts

7440-47-3D, Chromium, salts 7440-48-4D, Cobalt, salts

7440-50-8D, Copper, salts 7440-62-2D, Vanadium, salts

7727-21-1, Potassium persulfate 7727-54-0, Ammonium

persulfate 7761-88-8, Nitric acid silver(1+) salt, uses

7775-27-1, Sodium persulfate

RL: CAT (Catalyst use); USES (Uses)

(initiator component; reducing of residual monomer content of **aqueous polymer dispersions** with an initiator post-treatment)

IT 67-64-1, Acetone, uses 7439-89-6D, Iron, salts

7439-96-5D, Manganese, salts 7440-02-0D, Nickel, salts

7440-22-4D, Silver, salts 7440-32-6D, Titanium, salts

7440-47-3D, Chromium, salts 7440-48-4D, Cobalt, salts

7440-50-8D, Copper, salts 7440-62-2D, Vanadium, salts

7727-21-1, Potassium persulfate 7727-54-0, Ammonium

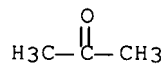
persulfate 7775-27-1, Sodium persulfate

RL: CAT (Catalyst use); USES (Uses)

(initiator component; reducing of residual monomer content of
aqueous polymer dispersions with an initiator
post-treatment)

RN 67-64-1 HCAPLUS

CN 2-Propanone (CA INDEX NAME)



RN 7439-89-6 HCAPLUS

CN Iron (CA INDEX NAME)

Fe

RN 7439-96-5 HCAPLUS

CN Manganese (CA INDEX NAME)

Mn

RN 7440-02-0 HCAPLUS

CN Nickel (CA INDEX NAME)

Ni

RN 7440-22-4 HCAPLUS

CN Silver (CA INDEX NAME)

Ag

RN 7440-32-6 HCAPLUS

CN Titanium (CA INDEX NAME)

Ti

RN 7440-47-3 HCAPLUS

CN Chromium (CA INDEX NAME)

Cr

RN 7440-48-4 HCAPLUS
 CN Cobalt (CA INDEX NAME)

Co

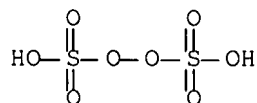
RN 7440-50-8 HCAPLUS
 CN Copper (CA INDEX NAME)

Cu

RN 7440-62-2 HCAPLUS
 CN Vanadium (CA INDEX NAME)

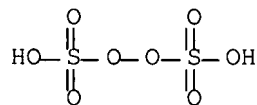
V

RN 7727-21-1 HCAPLUS
 CN Peroxydisulfuric acid ($[(\text{HO})\text{S}(\text{O})_2]_2\text{O}_2$), potassium salt (1:2) (CA INDEX NAME)



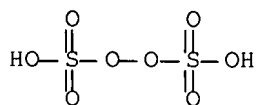
●2 K

RN 7727-54-0 HCAPLUS
 CN Peroxydisulfuric acid ($[(\text{HO})\text{S}(\text{O})_2]_2\text{O}_2$), ammonium salt (1:2) (CA INDEX NAME)



●2 NH₃

RN 7775-27-1 HCAPLUS
 CN Peroxydisulfuric acid ($[(\text{HO})\text{S}(\text{O})_2]_2\text{O}_2$), sodium salt (1:2) (CA INDEX NAME)



●2 Na

L74 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:282627 HCAPLUS Full-text

DN 138:288454

TI Production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**IN **Gaschler, Wolfgang**; Schaedler, Volker; Manders, Lambertus; Wirth, Thomas; Kroener, HubertusPA **Basf Aktiengesellschaft, Germany**

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT **Patent**

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003029316	A1	20030410	WO 2002-EP10969	20020930 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10148511	A1	20030410	DE 2001-10148511	20011001 <--
CA 2461948	A1	20030410	CA 2002-2461948	20020930 <--
AU 2002342780	A1	20030414	AU 2002-342780	20020930 <--
EP 1434806	A1	20040707	EP 2002-779444	20020930 <--
EP 1434806	B1	20060614		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
BR 2002012875	A	20041013	BR 2002-12875	20020930 <--
CN 1561353	A	20050105	CN 2002-819408	20020930 <--
JP 2005504155	T	20050210	JP 2003-532557	20020930 <--
AT 329945	T	20060715	AT 2002-779444	20020930 <--
US 2004242766	A1	20041202	US 2004-491279	20040331 <--
PRAI DE 2001-10148511	A	20011001	<--	
WO 2002-EP10969	W	20020930	<--	

AB An **aqueous** styrene-butadiene **polymer dispersion** is produced by radical **aqueous** emulsion **polymerization** of a monomer mixture comprising styrene, butadiene, and up to 30%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The reaction is carried out in a **polymerization** vessel according to a monomer supply method in the presence of a regulator system comprising, in relation to 100% of the monomers, 0.02-0.5% of at least one C6-C20-hydrocarbon selected from compds. forming a pentadienyl radical or a 1-phenylallyl radical by abstraction of a hydrogen atom, or α -methylstyrene dimer, and 0.3-2% of an organic compound

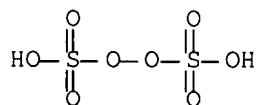
having at least one SH group. The method is characterized in that at least 30%, preferably at least 50%, especially at least 80%, and ideally the entire amount (or more than 95%) of the C6-C20-hydrocarbon is present in the **polymerization** vessel prior to the monomer supply. The styrene-butadiene **polymer dispersion** is used as a binder in pigment-containing paper coating compns. to produce paper with good printability and optical properties. Thus, acrylic acid-butadiene-styrene **copolymer** was produced by radical **aqueous emulsion polymerization** at 85° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and a chain-transfer agent system comprising p-1,4(8)-menthadiene and n-dodecylmercaptan. A paper coating composition comprised an **aqueous 50%-dispersion** of this **copolymer** (20), calcium carbonate (70), kaolin (30), poly(acrylic acid) sodium salt (0.4), 25%-sodium hydroxide solution (0.05), CM-cellulose (0.5), and water (64 parts).

- IC ICM C08F0212-08
- ICS C08F0236-06; C08F0291-00; D21H0017-35
- CC 37-3 (Plastics Manufacture and Processing)
- Section cross-reference(s): 42, 43
- ST radical emulsion **polymn aq** styrene butadiene **dispersion** prodn; chain transfer agent styrene butadiene radical emulsion **polymn**; styrene butadiene **dispersion** binder paper coating compn
- IT Thiols, reactions
 - RL: RCT (Reactant); RACT (Reactant or reagent)
 - (C4-C18, chain-transfer agents; production of **aqueous styrene-butadiene polymer dispersions** by radical emulsion **polymerization**)
- IT Hydrocarbons, reactions
 - RL: RCT (Reactant); RACT (Reactant or reagent)
 - (C6-20, unsatd., chain-transfer agents; production of **aqueous styrene-butadiene polymer dispersions** by radical emulsion **polymerization**)
- IT Binders
 - Coating materials
 - Paper
 - (**aqueous styrene-butadiene polymer dispersions** used as binders in paper coating compns.)
- IT **Polymerization**
 - (emulsion, radical, **aqueous**; production of **aqueous styrene-butadiene polymer dispersions** by radical emulsion **polymerization**)
- IT Chain transfer agents
 - (production of **aqueous styrene-butadiene polymer dispersions** by radical emulsion **polymerization**)
- IT 99-85-4, p-1,4-Menthadiene 112-55-0, n-Dodecylmercaptan 586-62-9, p-1,4(8)-Menthadiene 6144-04-3, α -Methylstyrene dimer
 - RL: RCT (Reactant); RACT (Reactant or reagent)
 - (chain-transfer agent; production of **aqueous styrene-butadiene polymer dispersions** by radical emulsion **polymerization**)
- IT 7775-27-1, Sodium peroxodisulfate
 - RL: CAT (Catalyst use); USES (Uses)
 - (production of **aqueous styrene-butadiene polymer dispersions** by radical emulsion **polymerization**)
- IT 25085-39-6P, Acrylic acid-butadiene-styrene **copolymer**
 - RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 - (production of **aqueous styrene-butadiene polymer dispersions** by radical emulsion **polymerization**)
- IT 7775-27-1, Sodium peroxodisulfate
 - RL: CAT (Catalyst use); USES (Uses)

(production of **aqueous** styrene-butadiene **polymer**
dispersions by radical emulsion **polymerization**)

RN 7775-27-1 HCAPLUS

CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), sodium salt (1:2) (CA INDEX NAME)



●2 Na

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Basf	1980			EP 0016403 A	HCAPLUS
Fujiwara, W	1997			US 5703157 A	HCAPLUS
Huls Ag	1995			EP 0666274 A	HCAPLUS
Japan Synthetic Rubber	1991			EP 0407059 A	HCAPLUS

L74 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:282626 HCAPLUS Full-text

DN 138:288118

TI Production of **aqueous** styrene-butadiene **polymer**
dispersions by radical emulsion **polymerization**

IN **Gaschler, Wolfgang**; **Schaedler, Volker**; **Manders, Lambertus**;
Wirth, Thomas; **Kroener, Hubertus**

PA **Basf Aktiengesellschaft, Germany**

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT **Patent**

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003029315	A1	20030410	WO.2002-EP10968	20020930 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	DE 10148494	A1	20030417	DE 2001-10148494	20011001 <--
	CA 2461947	A1	20030410	CA 2002-2461947	20020930 <--
	AU 2002362490	A1	20030414	AU 2002-362490	20020930 <--
	EP 1434808	A1	20040707	EP 2002-800143	20020930 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	BR 2002012868	A	20040914	BR 2002-12868	20020930 <--
	CN 1561350	A	20050105	CN 2002-819394	20020930 <--
	JP 2005504154	T	20050210	JP 2003-532556	20020930 <--

US 2004242767 A1 20041202 US 2004-491283 20040331 <--
 PRAI DE 2001-10148494 A 20011001 <--
 WO 2002-EP10968 W 20020930 <--

AB An **aqueous** styrene-butadiene **polymer dispersion** is produced by radical **aqueous** emulsion **polymerization** of a monomer mixture comprising 40-80% of styrene, 20-60% of butadiene, and 0-40%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The **polymerization** is carried out in the presence of 0.05-0.5%, with regard to 100% of the monomers, of at least one hydrocarbon selected from C6-C20-compds. that form a pentadienyl radical or a 1-phenylallyl radical when a hydrogen atom is abstracted, and α -methylstyrene dimer. The method is characterized in that at least 30% of the hydrocarbon is present in the reactor prior to **polymerization**, the rest of the hydrocarbon being fed during the **polymerization** reaction. The resulting **aqueous** styrene-butadiene **polymer dispersions** contain exceedingly small amts. of volatile components. Thus, acrylic acid-butadiene-styrene **copolymer** was produced by radical **aqueous** emulsion **polymerization** at 95° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and p-1,4(8)-menthadiene chain-transfer agent.

IC ICM C08F0212-08
 ICS C08F0236-06; C08F0291-00

CC 35-4 (Chemistry of Synthetic High Polymers)

ST styrene butadiene radical emulsion **polymn aq dispersion** prodn; terpene chain transfer agent styrene butadiene radical emulsion **polymn**; methylstyrene dimer chain transfer agent styrene butadiene radical **polymn**

IT Hydrocarbons, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (C6-20, unsatd., chain-transfer agents; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT **Polymerization**
 (emulsion, radical, **aqueous**; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT **Polymerization** catalysts
 (emulsion, radical; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT Peroxides, uses
 RL: CAT (Catalyst use); USES (Uses)
 (**polymerization** catalysts; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

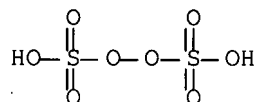
IT Chain transfer agents
 (production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT 99-85-4, p-1,4-Menthadiene 586-62-9, p-1,4(8)-Menthadiene 6144-04-3, α -Methylstyrene dimer
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chain-transfer agent; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT 7775-27-1, Sodium peroxodisulfate
 RL: CAT (Catalyst use); USES (Uses)
 (production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT 25085-39-6P, Acrylic acid-butadiene-styrene **copolymer**
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT 7775-27-1, Sodium peroxodisulfate
 RL: CAT (Catalyst use); USES (Uses)
 (production of aqueous styrene-butadiene polymer
 dispersions by radical emulsion polymerization)
 RN 7775-27-1 HCAPLUS
 CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), sodium salt (1:2) (CA INDEX NAME)



● 2 Na

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Basf	1980			EP 0016403 A	HCAPLUS
Fujiwara, W	1997			US 5703157 A	HCAPLUS
Huls Ag	1995			EP 0666274 A	HCAPLUS
Japan Synthetic Rubber	1991			EP 0407059 A	HCAPLUS

L74 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:282625 HCAPLUS Full-text

DN 138:288117

TI Production of aqueous styrene-butadiene polymer
 dispersions by radical emulsion polymerization

IN Manders, Lambertus; Wirth, Thomas; Gaschler, Wolfgang; Kroener,
 Hubertus

PA Basf Aktiengesellschaft, Germany

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003029314	A1	20030410	WO 2002-EP10967	20020930 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10148496	A1	20030417	DE 2001-10148496	20011001 <--
CA 2461675	A1	20030410	CA 2002-2461675	20020930 <--
AU 2002347036	A1	20030414	AU 2002-347036	20020930 <--
EP 1434807	A1	20040707	EP 2002-782802	20020930 <--
EP 1434807	B1	20060607		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

BR 2002012869	A	20040914	BR 2002-12869	20020930 <--
CN 1561351	A	20050105	CN 2002-819395	20020930 <--
JP 2005504153	T	20050210	JP 2003-532555	20020930 <--
AT 328916	T	20060615	AT 2002-782802	20020930 <--
US 2004209993	A1	20041021	US 2004-491336	20040401 <--
US 7196146	B2	20070327		
PRAI DE 2001-10148496	A	20011001	<--	
WO 2002-EP10967	W	20020930	<--	

AB An **aqueous** styrene-butadiene **polymer dispersion** is produced by radical **aqueous** emulsion **polymerization** of a monomer mixture comprising 40-80% of styrene, 20-60% of butadiene, and 0-40%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The **polymerization** is carried out in the presence of 0.05-0.5%, with regard to 100% of the monomers, of at least one hydrocarbon selected from C6-C20-compds. that form a pentadienyl radical or a 1-phenylallyl radical when a hydrogen atom is abstracted, and α -methylstyrene dimer. The method is characterized in that the concentration of butadiene in the monomer feed is increased by at least 10% in relation to the monomers in the feed, for a time period of at least 1% of the entire feed duration, when at least 70% of the monomers to be **polymerized** have been fed into the **polymerization** reaction. The resulting **aqueous** styrene-butadiene **polymer dispersions** contain exceedingly small amts. of volatile components. Thus, acrylic acid-butadiene-styrene **copolymer** was produced by radical **aqueous** emulsion **polymerization** at 95° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and p-1,4(8)-menthadiene chain-transfer agent.

IC ICM C08F0212-08

ICS C08F0236-10

CC 35-4 (Chemistry of Synthetic High Polymers)

ST styrene butadiene radical emulsion **polymn aq dispersion** prodn; terpene chain transfer agent styrene butadiene radical emulsion **polymn**; methylstyrene dimer chain transfer agent styrene butadiene radical **polymn**

IT Hydrocarbons, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(C6-20, unsatd., chain-transfer agents; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT **Polymerization**

(emulsion, radical, **aqueous**; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT **Polymerization** catalysts

(emulsion, radical; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT Peroxides, uses

RL: CAT (Catalyst use); USES (Uses)
(**polymerization** catalysts; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT Chain transfer agents

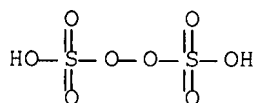
(production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT 99-85-4, p-1,4-Menthadiene 586-62-9, p-1,4(8)-Menthadiene 6144-04-3,
 α -Methylstyrene dimer

RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT 7775-27-1, Sodium peroxodisulfate

RL: CAT (Catalyst use); USES (Uses)
 (production of aqueous styrene-butadiene polymer
 dispersions by radical emulsion polymerization)
 IT 25085-39-6P, Acrylic acid-butadiene-styrene copolymer
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (production of aqueous styrene-butadiene polymer
 dispersions by radical emulsion polymerization)
 IT 7775-27-1, Sodium peroxodisulfate
 RL: CAT (Catalyst use); USES (Uses)
 (production of aqueous styrene-butadiene polymer
 dispersions by radical emulsion polymerization)
 RN 7775-27-1 HCAPLUS
 CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), sodium salt (1:2) (CA INDEX NAME)



●2 Na

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Basf Ag	1996			DE 4435423 A	HCAPLUS
Japan Synthetic Rubber	1991			EP 0407059 A	HCAPLUS
Wacker Polymer Systems	2001			EP 1065225 A	HCAPLUS

L74 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:282624 HCAPLUS Full-text

DN 138:288116

TI Production of aqueous styrene-butadiene polymer
 dispersions by radical emulsion polymerization

IN Manders, Lambertus; Wirth, Thomas; Gaschler, Wolfgang; Kroener,
 Hubertus

PA Basf Aktiengesellschaft, Germany

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003029313	A1	20030410	WO 2002-EP10966	20020930 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10148497	A1	20030417	DE 2001-10148497	20011001 <--

CA 2461672	A1	20030410	CA 2002-2461672	20020930 <--
AU 2002338845	A1	20030414	AU 2002-338845	20020930 <--
EP 1446431	A1	20040818	EP 2002-777269	20020930 <--
EP 1446431	B1	20060524		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

BR 2002012879	A	20041013	BR 2002-12879	20020930 <--
CN 1561352	A	20050105	CN 2002-819405	20020930 <--
JP 2005504152	T	20050210	JP 2003-532554	20020930 <--
AT 327266	T	20060615	AT 2002-777269	20020930 <--
ES 2263822	T3	20061216	ES 2002-2777269	20020930 <--
US 2004249057	A1	20041209	US 2004-491271	20040331 <--

PRAI DE 2001-10148497 A 20011001 <--

WO 2002-EP10966 W 20020930 <--

AB An **aqueous** styrene-butadiene **polymer dispersion** is produced by radical **aqueous** emulsion **polymerization** of a monomer mixture comprising 40-80% of styrene, 20-60% of butadiene, and 0-40%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The **polymerization** is carried out in the presence of 0.05-0.5%, with regard to 100% of the monomers, of at least one hydrocarbon selected from C6-C20-compds. that form a pentadienyl radical or a 1-phenylallyl radical when a hydrogen atom is abstracted, and α -methylstyrene dimer. The method is characterized in that the monomers to be **polymerized** are introduced within three hours of the **polymerization** reaction. The resulting **aqueous** styrene-butadiene **polymer dispersions** contain exceedingly small amts. of volatile components. Thus, acrylic acid-butadiene-styrene **copolymer** was produced by radical **aqueous** emulsion **polymerization** at 95° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and p-1,4(8)-menthadiene chain-transfer agent.

IC ICM C08F0212-08

ICS C08F0236-06

CC 35-4 (Chemistry of Synthetic High Polymers)

ST styrene butadiene radical emulsion **polymn aq dispersion** prodn; terpene chain transfer agent styrene butadiene radical emulsion **polymn**; methylstyrene dimer chain transfer agent styrene butadiene radical **polymn**

IT Hydrocarbons, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(C6-20, unsatd., chain-transfer agents; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT **Polymerization**

(emulsion, radical, **aqueous**; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT **Polymerization** catalysts

(emulsion, radical; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT Peroxides, uses

RL: CAT (Catalyst use); USES (Uses)
(**polymerization** catalysts; production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT Chain transfer agents

(production of **aqueous** styrene-butadiene **polymer dispersions** by radical emulsion **polymerization**)

IT 99-85-4, p-1,4-Menthadiene 586-62-9, p-1,4(8)-Menthadiene 6144-04-3,
 α -Methylstyrene dimer

RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of **aqueous** styrene-butadiene

polymer dispersions by radical emulsion
polymerization)

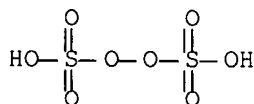
IT 7775-27-1, Sodium peroxodisulfate
RL: CAT (Catalyst use); USES (Uses)
(production of aqueous styrene-butadiene polymer
dispersions by radical emulsion polymerization)

IT 25085-39-6P, Acrylic acid-butadiene-styrene copolymer
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(production of aqueous styrene-butadiene polymer
dispersions by radical emulsion polymerization)

IT 7775-27-1, Sodium peroxodisulfate
RL: CAT (Catalyst use); USES (Uses)
(production of aqueous styrene-butadiene polymer
dispersions by radical emulsion polymerization)

RN 7775-27-1 HCAPLUS

CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), sodium salt (1:2) (CA INDEX NAME)



●2 Na

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Fujiwara, W	1997			US 5703157 A	HCAPLUS
Huls Ag	1995			EP 0666274 A	HCAPLUS
Japan Synthetic Rubber	1991			EP 0407059 A	HCAPLUS

L74 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:185823 HCAPLUS Full-text

DN 134:223499

TI Method for producing an aqueous dispersion of
composite particles including a polymer and fine inorganic
solids

IN Xue, Zhijian; Wiese, Harm

PA Basf A.-G., Germany

SO PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001018081	A1	20010315	WO 2000-EP8510	20000831 <--
W: AU, BR, CA, CN, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19942777	A1	20010315	DE 1999-19942777	19990908 <--
DE 19961964	A1	20010628	DE 1999-19961964	19991222 <--
CA 2383734	A1	20010315	CA 2000-2383734	20000831 <--
BR 2000013698	A	20020507	BR 2000-13698	20000831 <--
EP 1216262	A1	20020626	EP 2000-962418	20000831 <--

EP 1216262 B1 20041103
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, FI, CY
 JP 2004500446 T 20040108 JP 2001-522302 20000831 <--
 JP 3692077 B2 20050907
 AT 281482 T 20041115 AT 2000-962418 20000831 <--
 AU 778549 B2 20041209 AU 2000-74155 20000831 <--
 US 6756437 B1 20040629 US 2002-69960 20020308 <--
 PRAI DE 1999-19942777 A 19990908 <--
 DE 1999-19961964 A 19991222 <--
 WO 2000-EP8510 W 20000831 <--

AB An **aqueous dispersion** of composite particles of **polymers** and fine inorg. solid materials is produced by radical emulsion **polymerization** of ≥ 1 ethylenically unsatd. monomer **dispersed** in an **aqueous** medium and **polymerized** using ≥ 1 radical **polymerization** initiator, in the presence of ≥ 1 **dispersed**, fine inorg. solid material and ≥ 1 **dispersing** agent, each showing different electrophoretic mobilities and signs, and is used especially as an adhesive, binder, coating, modifier for cement and mortar formulations, as well as in medical diagnostics or as a composite powder after drying. The suitable inorg. solids have a solubility in water ≤ 1 g/L at 20°, and form stable **dispersions**, in which $\geq 90\%$ of the originally suspended solids remain **dispersed** (referred to their initial concentration of ≥ 1 weight%) after 1 h, having weight-average diameter of the **dispersed** particles ≤ 100 nm. The inorg. solids used contain ≥ 1 of the following elements: Mg, Ca, Sr, Ba, B, Ti, Cr, Fe, Co, Ni, Cu, Zn, Sn, Zr, Ce, Y, Al, Si, P, Sb and Bi and preferably comprise SiO₂, Al₂O₃, Al(O)OH, CaCO₃, MgCO₃, Ca₃(PO₄)₂, Mg₃(PO₄)₂, FeO, Fe₂O₃, Fe₃O₄, SnO₂, CeO₂, Y₂O₃, TiO₂, ZnO, ZnS, and/or hydroxyapatite. As **dispersing** agent an anionic or cationic emulsifier or a cationic protective colloid is suitable. As radical **polymerization** initiator Na₂S₂O₈, K₂S₂O₈, (NH₄)₂S₂O₈ or 2,2'-azobis(butyramidine)-2HCl is used. Examples (18) of different reaction mixts. are given. A **polymer** film formed from the **dispersion** show a high hardness and low water uptake. Raspberry-like composite particles up to 5000 nm in diameter and with a d. of 1.22 g/cm³ were found by TEM, containing ≥ 50 weight% of the solid surface-bonded.

IC ICM C08F0292-00
 ICS C08F0002-44

CC 37-6 (Plastics Manufacture and Processing)

ST composite particle **aq dispersion** radical emulsion
polymn; emulsifier initiator monomer solid stable
dispersion electrophoretic mobility; sedimentation composite
 particle **aq dispersion** powder; coating adhesive binder
 additive diagnostic composite **dispersion**; acrylate deriv styrene
copolymer composite **dispersion**

IT Alcohols, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (C16-18, ethoxylated, Lutensol AT 18; **aqueous dispersion**
 of composite particles of a **polymer** and inorg. solids)

IT Diagnosis
 (agents; **aqueous dispersion** of composite particles of a
polymer and inorg. solids in)

IT Emulsifying agents
 (anionic; in preparation of **aqueous dispersion** of composite
 particles of a **polymer** and inorg. solids)

IT Composites
 Microparticles
 (**aqueous dispersion** of composite particles of a
polymer and inorg. solids)

IT Cement (construction material)
 Mortar

- (aqueous dispersion of composite particles of a polymer and inorg. solids in)
- IT Emulsifying agents
(cationic; in preparation of aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT Coating materials
(dispersion, water-thinned; aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT Adhesives
(dispersion; aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT Polymerization
(emulsion, radical; aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT Plastic films
(from aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT Electrophoresis
(mobility in; preparation of aqueous dispersion of composite particles of a polymer and inorg. solids in relation to)
- IT Colloids
(protective; in preparation of aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT 18282-10-5, Tin dioxide
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(Nyacol SN 15; aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT 12626-49-2, Dowfax 2A1
RL: MSC (Miscellaneous)
(anionic emulsifier; aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT 2997-92-4 7727-21-1 7727-54-0 7775-27-1, Sodium peroxodisulfate
RL: CAT (Catalyst use); USES (Uses)
(aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT 471-34-1, Calcium carbonate, uses 546-93-0, Magnesium carbonate 1306-06-5, Hydroxylapatite 1306-38-3, Cerium dioxide, uses 1309-37-1, Iron(III) oxide, uses 1314-13-2, Zinc oxide, uses 1314-36-9, Yttrium(III) oxide, uses 1314-98-3, Zinc sulfide, uses 1317-61-9, Iron oxide (Fe₃O₄), uses 1344-28-1, Aluminum oxide, uses 1345-25-1, Iron(II) oxide, uses 7758-87-4, Calcium orthophosphate 10043-83-1, Magnesium orthophosphate 13463-67-7, Titanium dioxide, uses 24623-77-6, Aluminum hydroxide oxide
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT 57-09-0, CTAB
RL: MOA (Modifier or additive use); MSC (Miscellaneous); USES (Uses)
(cationic emulsifier; aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(colloidal, Levasil 200S; aqueous dispersion of composite particles of a polymer and inorg. solids)
- IT 9003-53-6, Styrene, homopolymer 9011-14-7, Methyl methacrylate, homopolymer 25153-46-2, Styrene-2-

ethylhexylacrylate **copolymer** 25767-47-9, Styrene-butyl
acrylate **copolymer** 25852-37-3, Methyl methacrylate-butyl
acrylate **copolymer**

RL: POF (Polymer in formulation); USES (Uses)

. (complex with fine inorg. particles; **aqueous dispersion**
of composite particles of a **polymer** and inorg. solids)

IT 7440-02-0, Nickel, uses 7440-24-6, Strontium, uses 7440-36-0,
Antimony, uses 7440-39-3, Barium, uses 7440-42-8, Boron, uses
7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses
7440-50-8, Copper, uses 7440-67-7, Zirconium, uses 7440-69-9,
Bismuth, uses

RL: MOA (Modifier or additive use); PEP (Physical, engineering
or chemical process); PROC (Process); USES (Uses)

(elemental or as compound; **aqueous dispersion** of
composite particles of a **polymer** and inorg. solids)

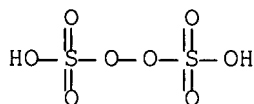
IT 7727-21-1 7727-54-0 7775-27-1, Sodium
peroxodisulfate

RL: CAT (Catalyst use); USES (Uses)

(**aqueous dispersion** of composite particles of a
polymer and inorg. solids)

RN 7727-21-1 HCAPLUS

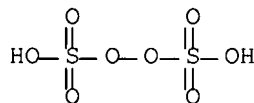
CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), potassium salt (1:2) (CA INDEX
NAME)



●2 K

RN 7727-54-0 HCAPLUS

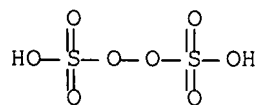
CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), ammonium salt (1:2) (CA INDEX
NAME)



●2 NH3

RN 7775-27-1 HCAPLUS

CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), sodium salt (1:2) (CA INDEX NAME)



●2 Na

IT 7440-02-0, Nickel, uses 7440-47-3, Chromium, uses
 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses
 RL: MOA (Modifier or additive use); PEP (Physical, engineering
 or chemical process); PROC (Process); USES (Uses)
 (elemental or as compound; aqueous dispersion of
 composite particles of a polymer and inorg. solids)
 RN 7440-02-0 HCAPLUS
 CN Nickel (CA INDEX NAME)

Ni

RN 7440-47-3 HCAPLUS
 CN Chromium (CA INDEX NAME)

Cr

RN 7440-48-4 HCAPLUS
 CN Cobalt (CA INDEX NAME)

Co

RN 7440-50-8 HCAPLUS
 CN Copper (CA INDEX NAME)

Cu

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Hermann-Josef, B	1998			US 5750618 A	HCAPLUS
Martin, R	1986			US 4608401 A	HCAPLUS
Mita Industrial Co Ltd	1994			EP 0606930 A	HCAPLUS
Robb, J	1995			US 5431956 A	HCAPLUS
Solc Jitka	1986			US 4609608 A	HCAPLUS
Solc Nee Hajna Jitka	1983			US 4421660 A	HCAPLUS
Tioxide Group Services	1992			GB 2250020 A	HCAPLUS
Tioxide Group Services	1993			EP 0572128 A	HCAPLUS

L74 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1996:724153 HCAPLUS Full-text

DN 125:337183

TI Process for, and use of, **aqueous polymer dispersions** for preserving mineral products, manufacture of the **aqueous** coating materials **dispersions**, and the **aqueous polymer dispersions** obtained

IN Reck, Bernd; Franzmann, Gernot; Bechert, Bertold; Baecher, Reinhard; Rehmer, Gerd

PA **BASF A.-G., Germany**

SO Ger. Offen., 23 pp.

CODEN: GWXXBX

DT **Patent**

LA German

FAN.CNT 1

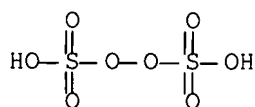
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19514266	A1	19961017	DE 1995-19514266	19950415 <--
	WO 9633143	A1	19961024	WO 1996-EP1481	19960404 <--
	W: AU, BG, BR, CA, CN, CZ, HU, JP, KR, MX, NO, NZ, PL, RO, SG, SI, SK, TR, UA, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9653993	A	19961107	AU 1996-53993	19960404 <--
	EP 821660	A1	19980204	EP 1996-910954	19960404 <--
	EP 821660	B1	20041124		
	R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL, SE, SI, FI				
	CN 1181750	A	19980513	CN 1996-193304	19960404 <--
	HU 9801806	A2	19990329	HU 1998-1806	19960404 <--
	HU 223264	B1	20040428		
	JP 11503710	T	19990330	JP 1996-531445	19960404 <--
	AT 283247	T	20041215	AT 1996-910954	19960404 <--
	CZ 296444	B6	20060315	CZ 1997-3262	19960404 <--
	PL 191596	B1	20060630	PL 1996-322775	19960404 <--
	US 6306460	B1	20011023	US 1997-930576	19971015 <--
	US 2002007005	A1	20020117	US 2001-910847	20010724 <--
	US 6569970	B2	20030527		
PRAI	DE 1995-19514266	A	19950415	<--	
	WO 1996-EP1481	W	19960404	<--	
	US 1997-930576	A3	19971015	<--	

OS MARPAT 125:337183

AB The process comprises coating the mineral products with an **aqueous dispersion** of a **polymer**, in radically **polymerized** form, containing ≥ 1 ethylenically unsatd. acids and/or their conjugated bases having general formula $\text{CH}_2:\text{C}(\text{R}_1)\text{C}(\text{O})\text{XC}(\text{R}_2)(\text{R}_3)(\text{CH}_2)_n\text{SO}_3\text{-Y}^+$ (I) [$n = 0-2$; independently, $\text{R}_1-3 = \text{H}$ or Me ; $\text{X} = \text{H}$ or imino group (NH); $\text{Y} = \text{H}$, alkali metal, or NH_4]. The **aqueous dispersions** are manufactured by (1) providing a mixture containing 10-50 weight of the total amount of water to be used, 0-50 weight% of the total amount of **dispersant** to be used, and at least part of the monomers of type I, heating the mixture to **polymerization** temperature, (2) providing an emulsion containing the balance of the monomers of type I, the balance of the other monomers, the balance of the **dispersant**, and 10-50 weight% of the water to be used, (3) providing a solution of the **polymerization** initiator in 10-20 weight% of the water to be used, adding 1-10 weight% (each) of the emulsion and the solution to the heated mixture and **polymerizing** $\geq 80\%$ of the monomers present, and adding the balance of the emulsion and the solution. Films obtained with the **aqueous polymer dispersions** have glass transition temperature > 20 to 50° and contain 90-95 weight% of ≥ 1 monomers comprising esters of acrylic acid and methacrylic acid with C1-8-alcs., styrene, α -

methylstyrene, o-chlorostyrene, and vinyltoluene, 0.5-5 weight% of ≥ 1 monomers comprising acrylic acid, methacrylic acid, itaconic acid, their alkali metal and NH_4 salts, acrylamide, and methacrylamide, and 0.5-5 weight% of ≥ 1 monomers of type I. Extruded green concrete (sand-cement-water) products spray coated with the emulsions (**polymer** content 40, antifoaming agent content 5 weight%) to 120 g/m², dried in a climate chamber at relative humidity 50% did not show any efflorescence.

- IC ICM C04B0041-63
ICS C04B0041-83; C09D0133-14; C09D0133-24
- ICA C08F0002-24; C08F0212-08; C08F0220-12; C08F0236-04; C08F0214-06;
C08F0214-08; C08F0218-04; C08F0210-02; C08F0220-04; C08F0222-02
- ICI C08F0246-00, C08F0220-38, C08F0220-58
- CC 58-2 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 42
- ST coating material efflorescence resistant; **aq polymer dispersion** concrete coating; acrylic acid ester **polymer dispersion**; methacrylic acid ester **polymer dispersion**; styrene ester **polymer dispersion**; methylstyrene ester **polymer dispersion**; chlorostyrene ester **polymer dispersion**; vinyltoluene ester **polymer dispersion**; **dispersant polymer dispersion**
- IT **Ketones, uses**
RL: MOA (Modifier or additive use); USES (Uses)
(C13-15, hydroxy, ethoxylated, esters, **dispersants**; compns. for **aqueous polymer dispersions** for efflorescence-resistant coating formation on concrete)
- IT Concrete
(**aqueous polymer dispersions** for efflorescence-resistant coating formation on)
- IT **Dispersing agents**
(compns. for **aqueous polymer dispersions** for efflorescence-resistant coating formation on concrete)
- IT 7775-27-1, Sodium peroxydisulfate
RL: **CAT (Catalyst use)**; **USES (Uses)**
(compns. for **aqueous polymer dispersions** for efflorescence-resistant coating formation on concrete)
- IT 9081-17-8
RL: MOA (Modifier or additive use); USES (Uses)
(**dispersant**; compns. for **aqueous polymer dispersions** for efflorescence-resistant coating formation on concrete)
- IT 25852-91-9D, ethers with C13-15-oxo-alcs.
RL: MOA (Modifier or additive use); USES (Uses)
(**dispersants**; compns. for **aqueous polymer dispersions** for efflorescence-resistant coating formation on concrete)
- IT 7775-27-1, Sodium peroxydisulfate
RL: **CAT (Catalyst use)**; **USES (Uses)**
(compns. for **aqueous polymer dispersions** for efflorescence-resistant coating formation on concrete)
- RN 7775-27-1 HCAPLUS
- CN Peroxydisulfuric acid ($[(\text{HO})\text{S}(\text{O})_2]_2\text{O}_2$), sodium salt (1:2) (CA INDEX NAME)



●2 Na

L74 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1996:110358 HCAPLUS Full-text

DN 124:147180

TI Redox initiator for reducing the content of unreacted monomers in **aqueous dispersions** of vinyl **copolymers**

IN Hartmann, Juergen; Tschang, Chung-Ji; Keller, Peter; Stanger, Bernd

PA BASF A.-G., Germany

SO Ger. Offen., 17 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4419518	A1	19951207	DE 1994-4419518	19940603 <--
	CN 1151747	A	19970611	CN 1995-193986	19950202 <--
	CN 1120180	B	20030903		
	CA 2190995	A1	19951214	CA 1995-2190995	19950220 <--
	WO 9533775	A1	19951214	WO 1995-EP607	19950220 <--
	W: AU, BR, BY, CA, CN, CZ, FI, HU, JP, KR, KZ, MX, NO, NZ, PL, RU, UA, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9517583	A	19960104	AU 1995-17583	19950220 <--
	AU 688468	B2	19980312		
	EP 771328	A1	19970507	EP 1995-910503	19950220 <--
	EP 771328	B1	19981007		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	BR 9507916	A	19970812	BR 1995-7916	19950220 <--
	JP 10502948	T	19980317	JP 1995-500202	19950220 <--
	AT 171956	T	19981015	AT 1995-910503	19950220 <--
	ES 2122559	T3	19981216	ES 1995-910503	19950220 <--
	FI 9604816	A	19961202	FI 1996-4816	19961202 <--
	NO 9605140	A	19970130	NO 1996-5140	19961202 <--
	US 5994457	A	19991130	US 1997-737933	19970228 <--
PRAI	DE 1994-4419518	A	19940603	<--	
	DE 1994-4435423	A	19941004	<--	
	WO 1995-EP607	W	19950220	<--	
AB	A redox initiator containing an adduct of a C3-8 ketone and H sulfite as the reducing agent is used in a post-polymerization step to decrease the concentration of unreacted monomers in an aqueous dispersion of a vinyl copolymer . An aqueous dispersion of a copolymer of styrene, butadiene, acrylic acid, and itaconic acid was prepared and treated with Me3COOH, acetone, and Na disulfite to form a redox initiator which reduced the concentration of unreacted monomers from 1.47% to «1%.				
IC	ICM C08F0002-22				
	ICS C08F0220-18; C08F0212-08; C08F0236-06; C08F0214-08; C08F0218-04; C08F0210-02; C08F0004-40; C08J0003-03				
CC	35-4 (Chemistry of Synthetic High Polymers)				
ST	redox initiator elimination unreacted monomer copolymer; sulfite redox				

initiator elimination unreacted monomer; **ketone** redox initiator
 elimination unreacted monomer; polymn suspension elimination unreacted
 monomer; acrylic acid unreacted elimination dispersion copolymer; vinyl
 monomer unreacted elimination dispersion copolymer; peroxide elimination
 unreacted vinyl monomer copolymer

IT 75-91-2, tert-Butyl hydroperoxide 80-15-9, Cumene hydroperoxide
 94-36-0, Dibenzoyl peroxide, uses 7722-84-1, Hydrogen peroxide, uses
 7727-54-0, Ammonium persulfate 13445-49-3,

Peroxydisulfuric acid 28324-52-9, Pinane hydroperoxide

RL: CAT (Catalyst use); USES (Uses)

(in preparation of redox initiator for elimination of unreacted monomers
 from vinyl copolymer dispersions)

IT 67-64-1, Acetone, uses 78-93-3, Methyl ethyl
ketone; uses 96-22-0, Diethyl **ketone**
 7681-57-4

RL: NUU (Other use, unclassified); USES (Uses)

(in preparation of redox initiator for elimination of unreacted monomers
 from vinyl copolymer dispersions)

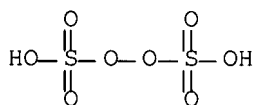
IT 7727-54-0, Ammonium persulfate 13445-49-3,
 Peroxydisulfuric acid

RL: CAT (Catalyst use); USES (Uses)

(in preparation of redox initiator for elimination of unreacted monomers
 from vinyl copolymer dispersions)

RN 7727-54-0 HCAPLUS

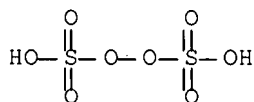
CN Peroxydisulfuric acid ([(HO)S(O)2]2O2), ammonium salt (1:2) (CA INDEX
 NAME)



●2 NH3

RN 13445-49-3 HCAPLUS

CN Peroxydisulfuric acid ([(HO)S(O)2]2O2) (CA INDEX NAME)



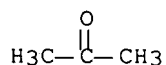
IT 67-64-1, Acetone, uses 78-93-3, Methyl ethyl
ketone, uses 96-22-0, Diethyl **ketone**

RL: NUU (Other use, unclassified); USES (Uses)

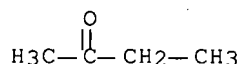
(in preparation of redox initiator for elimination of unreacted monomers
 from vinyl copolymer dispersions)

RN 67-64-1 HCAPLUS

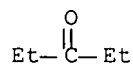
CN 2-Propanone (CA INDEX NAME)



RN 78-93-3 HCAPLUS
CN 2-Butanone (CA INDEX NAME)



RN 96-22-0 HCAPLUS
CN 3-Pentanone (CA INDEX NAME)



=> => fil wpix

FILE 'WPIX' ENTERED AT 09:38:01 ON 15 MAY 2007

COPYRIGHT (C) 2007 THE THOMSON CORPORATION

FILE LAST UPDATED: 10 MAY 2007 <20070510/UP>

MOST RECENT THOMSON SCIENTIFIC UPDATE: 200730 <200730/DW>

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> New reloaded DWPI Learn File (LWPI) available as well <<<

>>> YOU ARE IN THE NEW AND ENHANCED DERWENT WORLD PATENTS INDEX <<<

>>> New display format FRAGHITSTR available <<<

SEE ONLINE NEWS and

http://www.stn-international.de/archive/stn_online_news/fraghitstr_ex.pdf

>>> IPC Reform backfile reclassification has been loaded to 31 December 2006. No update date (UP) has been created for the reclassified documents, but they can be identified by 20060101/UPIC and 20061231/UPIC. <<<

FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
PLEASE VISIT:

http://www.stn-international.de/training_center/patents/stn_guide.pdf

FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE

<http://scientific.thomson.com/support/patents/coverage/latestupdates/>

PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE

http://www.stn-international.de/stndatabases/details/ipc_reform.html and

<http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf>

>>> FOR DETAILS ON THE NEW AND ENHANCED DERWENT WORLD PATENTS INDEX

PLEASE SEE

http://www.stn-international.de/stndatabases/details/dwpi_r.html <<<
 'BI ABEX' IS DEFAULT SEARCH FIELD FOR 'WPIX' FILE

=> d bib ab tech abex tot

L99 ANSWER 1 OF 2 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
 AN 2004-776749 [77] WPIX Full-text
 DNC C2004-272110 [77]
 TI Reducing the residual monomer content in aqueous polymer dispersions involves post-treatment by addition of an initiator system containing an inorganic salt of **persulfuric acid**, a **methylketone** and optionally a catalytic metal ion
 DC A82
 IN CHOWDHRY M M; GASCHLER W; CHOWDHRY M
 PA (BADI-C) BASF AG
 CYC 107
 PIA DE 10317434 A1 20041028 (200477)* DE 8[0]
 WO 2004092226 A1 20041028 (200477) DE
 EP 1615960 A1 20060118 (200606) DE
 EP 1615960 B1 20060816 (200655) DE
 US 20060205851 A1 20060914 (200661) EN
 DE 502004001213 G 20060928 (200664) DE
 ADT DE 10317434 A1 **DE 2003-10317434 20030415**; EP 1615960 A1 EP 2004-726959 20040413; EP 1615960 B1 EP 2004-726959 20040413; WO 2004092226 A1 WO 2004-EP3848 20040413; EP 1615960 A1 WO 2004-EP3848 20040413; EP 1615960 B1 WO 2004-EP3848 20040413; US 20060205851 A1 WO 2004-EP3848 20040413; US 20060205851 A1 US 2005-552994 20051013; DE 502004001213 G DE 2004-502004001213 20040413; DE 502004001213 G EP 2004-726959 20040413; DE 502004001213 G WO 2004-EP3848 20040413
 FDT EP 1615960 A1 Based on WO 2004092226 A; EP 1615960 B1 Based on WO 2004092226 A; DE 502004001213 G Based on EP 1615960 A; DE 502004001213 G Based on WO 2004092226 A
 PRAI **DE 2003-10317434 20030415**
 AB DE 10317434 A1 UPAB: 20050707
 NOVELTY - Reduction of the residual monomer content in aqueous polymer dispersions involves post-treatment by addition of an initiator system containing
 (a) an inorganic salt of **persulfuric acid** (0.001-5 weight%);
 (b) a **methylketone** (0.005-5 weight%); and optionally (c) a metal ion in any valency state (catalytic amount) All amounts are based on the amount of monomers used to produce the dispersion.
 USE - None given in the specification.
 ADVANTAGE - The organic component of the initiator system can be easily removed from the dispersion following the residual monomer content reduction.
 TECH POLYMERS - Preferred Materials : Inorganic salt (a) is a sodium, potassium or ammonium salt. The **methylketone** (b) is of formula R1-C(:O)-CH3 where R1 = 1-5C alkyl which can contain functional groups and/or which can be olefinically unsaturated, especially methyl, ethyl, n- or iso-propyl or n- or tertiary. butyl. Metal ion (c) is iron, copper, manganese, vanadium, nickel, cobalt, titanium, cerium, chromium and/or silver. Preferred Process : Components (a) and (b) are added separately during post-treatment of the aqueous dispersion, with the major amount of the catalytic metal ion (c) being added during the post-treatment before (a) and (b). The amount of (c) is 1- 100 ppm. The post-treatment is effected at a dispersion pH of 2-10 in presence of complexing agents.
 ABEX EXAMPLE - An aqueous dispersion (1500 g; 52 wt.% solids and pH 4.3) obtained by free-radical polymerization of styrene, n-butyl acrylate and acrylic acid had its styrene, n-butyl acrylate and acrylic acid residual

monomer contents reduced from 2930, 13150 and 3450 ppm respectively to 60, 990 and 890 respectively by cooling to 20-25degreesC and adjusting the pH under N2 to 6.5 by addition of a 25% sodium hydroxide solution; adding a 1 wt.% solution (2 g) of silver nitrate in deionized water and heating to 90degreesC; stirring while simultaneously adding separately at 12.5 g/hour (i) a 23 wt.% solution (25 g) of sodium persulfate in deionized water and (ii) a 20 wt.% solution (25 g) of **acetone** in deionized water; and post reacting the mixture for 1 hour at this temperature and then cooling to room temperature.

L99 ANSWER 2 OF 2 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN

AN 1999-205903 [18] WPIX Full-text

DNC C1999-060159 [18]

TI Reducing residual monomer content of aqueous polymer dispersions

DC A18; A60; E17

IN BAUER G; DAMES B; DOBBELAAR J; HEIBEL C; LAWRENZ S; RUPANER R

PA (BADI-C) BASF AG

CYC 1

PIA DE 19741185 A1 19990325 (199918)* DE 7[0]

<--

ADT DE 19741185 A1 DE 1997-19741185 19970918

PRAI DE 1997-19741185 19970918

AB DE 19741185 A1 UPAB: 20050704

NOVELTY - The residual monomer content of aqueous polymer dispersions is reduced by generating radicals in the dispersion with a redox initiator system in presence of a 1-20 C carboxylic acid with a mol. weight of not more than 300 and with no polymerisable carbon-carbon double bonds.

USE - For reducing the residual monomer content of aqueous polymer dispersions, especially e.g. dispersions of (meth)acrylate copolymers, styrene-butadiene copolymers and ethylene-vinyl acetate copolymers.

ADVANTAGE - Enables the reduction of residual monomer content without forming other volatiles or odorous substances and without forming a micro-coagulate. The process is technically easy to use, even in concentrated systems.

TECH

POLYMERS - Preferred Process: The radicals are generated by thermal decomposition of peroxy or azo compounds, by high- energy radiation or by an electrochemical process. The treatment is preferably carried out at 20-150degreesC, optionally under pressure, in presence of a redox system essentially comprising (a) 0.01-5 wt% (based on the total amount of monomer used to make the dispersion) of a mixture of:

(a) a compound of formula R1-O-O-R2 (I), and/or a compound which liberates hydrogen peroxide in aqueous medium;

(b) 30-300 mol% (based on (a)) of a carboxylic acid as above;

(c) 0-1000 ppm (based on total monomer as for (a)) multivalent metal ion with variable valency; and

(d) 0-10 wt% (based on total monomer) of a mineral acid.

Radicals may also be generated by thermal decomposition of **peroxy -disulphuric acid** and/or a salt thereof.

R1 and R2 = H, 1-8 C alkyl or 6-16 C aryl, at least one of these groups being H

ORGANIC CHEMISTRY - Preferred Reagents: Components (a) and (b) may be replaced by an organic per-acid, preferably performic or peracetic acid, or a salt respectively.

Component (I) is hydrogen peroxide.

Preferred carboxylic acids (b) are formic or acetic acid, or benzoic acid (optionally substituted with at least one 1-8 C alkyl or alkoxy group) or a salt thereof.

ABEX EXAMPLE - A mixture of 15 g 30% aqueous hydrogen peroxide (H2O2) solution, 15 mg iron(II) sulfate heptahydrate, 635 g water and 45 g monomer emulsion ME3 (1110 g n-butyl acrylate, 375 g styrene, 15 g acrylic acid, 75 g sulfated ethoxylated lauryl alcohol Na salt (30% solution), 37

g ethoxylated tallow fatty alcohol (20%) and 610 g water) was heated to 70degreesC, treated with 10 g formic acid solution (4.4 g in 200 g water), treated over 120 minutes with the rest of emulsion ME3 and over 135 minutes with another 194 g of the formic acid solution and then stirred for a further 1 hour at 70degreesC. The cooled, filtered dispersion obtained had a solid content of 49.6%, a pH of 2.6 and an LD value of 60%. 500 g of the dispersion was reheated to 70degreesC and treated with 4.2 g H2O2 solution followed (over 30 minutes) by 18.8 g 10% aqueous formic acid. The treated dispersion showed residual monomer contents of 4000 (45000) ppm n-butyl acrylate, 30 (1580) ppm styrene and less than 10 (less than 10) ppm acrylic acid. Values in brackets are for the untreated dispersion.

=> d his

(FILE 'HOME' ENTERED AT 08:02:12 ON 15 MAY 2007)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 08:02:44 ON 15 MAY 2007

L1 1 S US20060205851/PN OR (US2005-552994# OR WO2004-EP3848 OR DE200
E CHOWDHRY/AU
E CHOWDHRY M/AU
L2 28 S E5-E7
E MUBARIK/AU
E MAHMOOD/AU
E GASCHLER/AU
L3 22 S E19,E21,E22
E GAESCHLER/AU
E GEASCHLER/AU
SEL RN L1

FILE 'REGISTRY' ENTERED AT 08:06:32 ON 15 MAY 2007

L4 15 S E1-E15
L5 9 S L4 AND 1/ELC.SUB
L6 1 S 7440-45-1
L7 10 S L5,L6
L8 3 S L4 AND S/ELS
L9 1 S 13445-49-3
L10 97 S 13445-49-3/CRN
L11 31 S L10 AND (NA OR K OR H3N)
L12 8 S L11 AND 2/NC
L13 23 S L11 NOT L12
L14 1 S L13 AND NA AND H3N AND 3/NC
L15 10 S L8,L9,L12,L14
L16 66 S L10 NOT L11-L15
L17 20 S L16 AND NR>=1
L18 46 S L16 NOT L17
L19 42 S L18 AND 2/NC
L20 37 S L19 NOT (COMPD OR C4H11N)
L21 9 S L18 NOT L20
L22 3 S L21 AND H2O
L23 40 S L20,L22
L24 3 S L4 NOT L7,L15
L25 1 S L24 AND C3H6O

FILE 'HCAPLUS' ENTERED AT 08:32:53 ON 15 MAY 2007

L26 14572 S L15
L27 5313 S L26 (L) CAT/RL
L28 9337 S L26 (L) USES+NT/RL

L29 9337 S L27,L28
 L30 3533 S L29 AND PY<=2003 NOT P/DT
 L31 3556 S L29 AND (PRD<=20030415 OR AD<=20030415 OR PD<=20030415) AND P
 L32 7089 S L30,L31
 L33 329 S L32 AND AQUEOUS?(L)?POLYM?(L)?DISPERS?
 E AQUEOUS/CT
 E POLYMER DISPERS/CT
 E DISPERS/CT
 L34 5523 S E23-E25
 E E23_ALL
 E DISPERS/CT
 E E
 E DISPERS/CT
 E E23+ALL
 L35 37857 S E2,E48,E54
 E E68+ALL
 L36 23462 S E6-E9,E12
 L37 98 S L32 AND L34-L36
 L38 402 S L33,L37
 E KETONE/CT
 E E4+ALL
 L39 0 S L38 AND E5,E6,E7,E10
 E E4+ALL
 L40 3 S L38 AND E4
 L41 7 S L38 AND E159
 L42 16 S L38 AND E4+OLD,NT
 L43 16 S L40-L42
 E KETONES/CT
 L44 3 S L38 AND E129-E144
 L45 16 S L43,L44
 SEL DN AN 2 4 8 9 11 12
 L46 6 S L45 AND E1-E18
 L47 7 S L38 AND L25
 L48 5 S L47 AND L46
 L49 6 S L46,L48
 L50 16 S L7 AND L38
 L51 4 S L50 AND L7(L)CAT/RL
 L52 13 S L50 AND L7(L)USES+NT/RL
 L53 1 S L49 AND L51
 L54 1 S L49 AND L52
 L55 6 S L53,L54,L49
 L56 15 S L50-L54 NOT L55
 SEL DN AN 7 15
 L57 2 S L56 AND E19-E24
 L58 8 S L55,L57
 L59 5 S L1-L3 AND L32
 L60 5 S L59 AND L38
 L61 56 S BASF?/PA,CS AND L32
 E BASF/CO
 L62 30108 S BASF?/CO,PA
 E E6+ALL
 L63 45348 S E2+RT
 L64 4 S E210-E211
 L65 59 S L32 AND L62-L64
 L66 32 S L61,L65 AND L38
 L67 3 S L66 AND ?KETON?
 L68 2 S L66 AND KETONE?/CW,CT
 L69 2 S L66 AND L25
 L70 7 S L67-L69,L60
 L71 12 S L58,L70 AND L1-L3,L26-L70

L72 12 S L71 AND L15,L23,L25,L7
L73 4 S L72 NOT L62,L63,L1-L3
L74 8 S L72 NOT L73

FILE 'HCAPLUS' ENTERED AT 09:16:22 ON 15 MAY 2007

FILE 'WPIX' ENTERED AT 09:16:40 ON 15 MAY 2007

L75 1902 S C08F006-06/IPC,IC,ICM,ICS
L76 1867 S L75 AND (PRD<=20030415 OR AD<=20030415 OR PD<=20030415)
L77 539 S L76 AND A10-G01/MC
L78 358 S L76 AND A10-G01A/MC
L79 154 S L76 AND A10-G01B/MC
L80 1016 S L77-L79
L81 358 S (PERSULFURIC OR PERSULPHURIC OR PER() (SULFURIC OR SULPHURIC))
E PERSULFURIC ACID/CN
E PEROXYSULFURIC ACID/CN
E PEROXYDISULFURIC ACID/CN
L82 2 S E3
L83 68 S R08088/DCN OR R08088/PLE
L84 66 S (PEROXYDISULFURIC OR PEROXYDISULPHURIC OR PEROXY() (DISULFURIC
L85 0 S PER()OXY() (DISULFURIC OR DISULPHURIC) ()ACID
L86 0 S PER()OXY()DI() (SULFURIC OR SULPHURIC) ()ACID
L87 2 S L80 AND L81-L84
L88 3 S L80 AND ?METHYLKETON?
L89 0 S L80 AND ?METHYL KETON?
L90 27 S L80 AND ACETONE
E ACETONE/CN
L91 1 S E3
L92 12735 S R00272/DCN OR R00272/PLE OR 0272/DRN
L93 8 S L80 AND L92
L94 12 S L87,L88,L93
L95 10 S L90 AND L94
L96 12 S L94,L95
L97 17 S L90 NOT L96
L98 2 S L96 AND (2004-776749 OR 1999-205903)/AN
L99 2 S L98 AND L75-L98

FILE 'WPIX' ENTERED AT 09:38:01 ON 15 MAY 2007

=>